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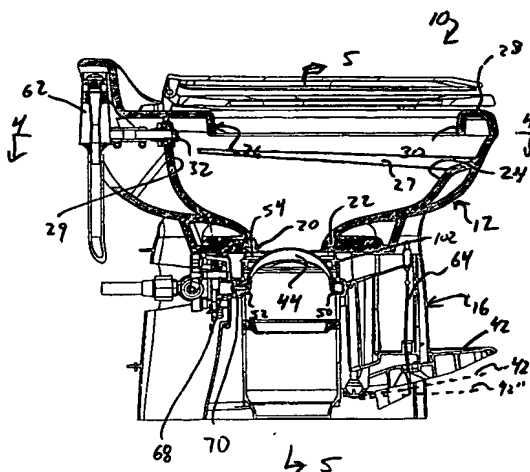
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Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

(54) Title: REDUCED WATER CONSUMPTION FLUSH TOILET



(57) Abstract: A reduced water consumption flush toilet for a motor vehicle includes a bowl assembly, a waste ball valve assembly and a water valve assembly. The waste ball valve assembly is mounted to the flush toilet for selectively opening and closing the discharge opening of the bowl assembly. The water valve assembly includes a water valve operable in a water valve open condition and a water valve closed condition. The flush toilet further includes a common actuator for controlling both the waste ball valve assembly and the water valve assembly. The common actuator is movable from a first position to an intermediate position and to a second position such that in the first position the waste ball valve assembly closes the discharge opening and the water valve assembly is in the closed condition, in the intermediate position the waste ball valve assembly closes the discharge opening and the water valve assembly is in the open position for adding water to the bowl, and in the second position the waste ball valve assembly opens the discharge opening and the water valve assembly is in the open position for flushing the bowl.

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12 August 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No

US 03/38021

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 E03D5/08 E03D5/012

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 E03D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 308 481 A (MILETTE KENNETH A ET AL) 14 March 1967 (1967-03-14) column 2, line 29 - line 44 column 6, line 52 - column 7, line 2 figures 2-5	1,4,5, 8-10
A		11, 14-16, 18,20
X	US 5 933 882 A (FLEMING DAVID CHARLES ROBERT) 10 August 1999 (1999-08-10)	1,3,5, 7-11,14, 16 6,17
Y	column 5, line 12 - line 40 figures 3-6	18-20
A		

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International Application No

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 875 499 A (SELINA JOHN R ET AL) 2 March 1999 (1999-03-02) column 2, line 45 - line 64 column 4, line 25 - line 61 figures 4,10	6,17
A	-----	13
X	US 4 710 988 A (STEWART JOHN M) 8 December 1987 (1987-12-08) column 4, line 56 - line 62 column 8, line 38 - line 57 column 9, line 41 - column 10, line 2 figures 1,2,8,11	1,3-5, 7, 14-16
A	----- US 3 599 248 A (FULTON HOWARD A ET AL) 17 August 1971 (1971-08-17) column 2, line 29 - line 41 figure 1	1,14,18
A	----- EP 0 940 510 A (ELECTROLUX SIEGEN GMBH) 8 September 1999 (1999-09-08) column 5, line 29 - line 37 figures	1,2,14, 18

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 03/38021

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-20

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-20

Flush toilet actuating mechanism

2. claims: 21-34

Flush water distribution for flush toilet

3. claims: 35-44

Sealing element for toilet bowl discharge opening

4. claims: 45-54

Flush toilet with decorative shroud

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 03/38021

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 3308481	A	14-03-1967	NONE	
US 5933882	A	10-08-1999	CA 2241580 A1	05-12-1999
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